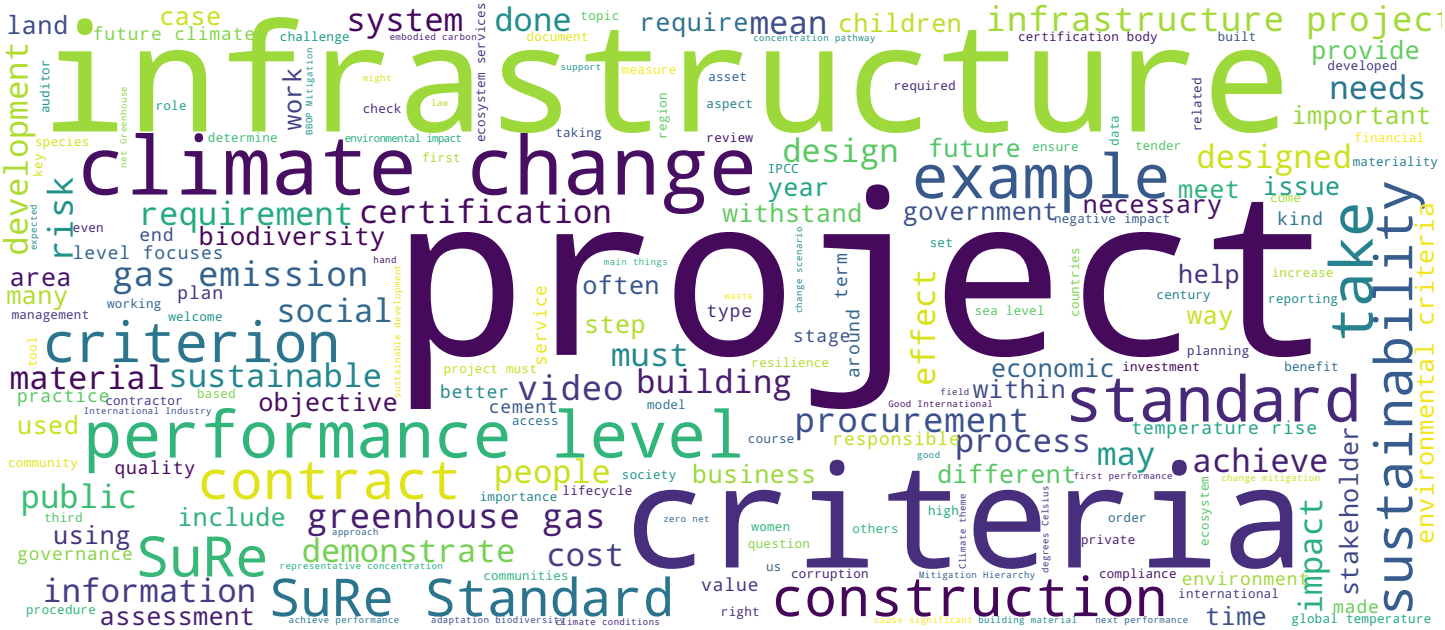
# Environment Criteria in SuRe®

## Building expertise on sustainable and resilient infrastructure

Katharina Schneider-Roos

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Video

# Environmental Dimension of SuRe®

01 The SuRe® Environmental Criteria

02 Criterion E1.1: Climate Change Mitigation

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04 Criterion E2.2: Biodiversity and Ecosystem Conservation

Hello and welcome. In this video, we will be exploring the environmental criteria of the SuRe® Standard. We will take a brief overview of all of the environmental criteria in the standard, before taking a deeper look at three example criteria: climate change mitigation, adaptation, biodiversity and ecosystem conservation. Ok, let's get started with an overview of the Environmental Criteria in the SuRe® Standard.

Notes

Summary

0m 05s

Three dimensions, 14 themes and 61=46 Management Criteria+15 Performance Criteria+2 Overarching Criteria


The Standard has 18 environmental criteria grouped into the following themes: Climate (including mitigation and adaptation); Biodiversity and Ecosystems; Resource Management; Pollution; and Land Use and Landscape. The environmental set of criteria is all about minimising negative impacts on the environment, while maximising environmental benefits.

Notes

Summary

0m 36s

# SuRe® Criteria Environment

| Theme | Criteria | | |
|---|---|---|---|
| E.1 Climate | E1.1 Climate Change Mitigation | (PC) | (RED) |
| | E1.2 Climate Change Adaptation | (PC) | (RED) |
| E.2 Biodiversity and Ecosystems | E2.1 Biodiversity and Ecosystem Management | (MC) | (RED) |
| | E2.2 Biodiversity and Ecosystem Conservation | (PC) | (RED) |
| | E2.3 Invasive Alien Species | (MC) | |
| E.3 Environmental Protection | E3.1 Responsible Sourcing of Water | (MC) | (RED) |
| | E3.2 Water Efficiency | (PC) | (RED) |
| | E3.3 Responsible Sourcing of Materials | (PC) | |
| | E.3.4 Resource Efficiency | (PC) | (RED) |
| | E3.5 Waste Management | (PC) | |
| E.4 Natural Resources | E4.1 Air and Soil Pollution | (PC) | (RED) |
| | E4.2 Water Pollution | (PC) | (RED) |
| | E4.3 Pest Management | (MC) | |
| | E4.4 Noise, Light, Vibration and Heat | (PC) | |
| | E4.5 Cumulative Impacts | (MC) | |
| E.5 Land Use and Landscape | E5.1 Location, Project Siting and Design in Relation to Landscape | (MC) | |
| | E5.2 Land Use | (PC) | |
| | E5.3 Soil Restoration | (MC) | |

In this video, we will step through each of these themes and take a deep dive into selected criteria. Following the video, you may read more deeply into the full set of criteria.

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Summary

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# Environmental Dimension of SuRe®



Now let's take a closer look at Criterion E1.1: Climate Change Mitigation In the Climate theme, we look at both mitigation and adaptation to climate change.

Notes

Summary

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# Climate Change Mitigation

- The Project shall avoid, or if not feasible, reduce project related Greenhouse Gas (GHG) emissions…
- Examples:
  - Adoption of Renewable Energy sources;
  - Energy Efficiency improvements;
  - Reduction of fugitive emissions;
  - Reduction in Embodied Energy;
  - Afforestation and reduction in deforestation;
  - Or other changes to project siting or design which reduce GHG Emissions required for service delivery

The mitigation criteria requires infrastructure projects to minimise greenhouse gas emissions throughout the lifecycle of the project, from the planning, through the construction and the use phase till the dismantlement of the asset. This includes, for example, using renewable energy instead of fossil fuels; planting trees to capture carbon, or building with materials that have caused fewer greenhouse gas emissions in their production, transportation and use. This is also called lowering embodied carbon. In some cases, it is necessary that a project generates greenhouse gas emissions in order to achieve greater development objectives, that would not be feasible through other means. For example, an airport in a rural location may be necessary to enable important healthcare improvements to remote populations, although it would cause significant greenhouse gas emissions. To meet this criterion, a project would need to demonstrate that there is no other feasible alternative in this situation.

Notes

Summary

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# Climate Change Mitigation

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|---|---|
| **Performance Level 1** | Scope 1 & 2 GHG emissions are lower than NDC |
| **Performance Level 2** | Zero net emissions for Scope 1 & 2 |
| **Performance Level 3** | Zero net emissions for Scope 1, 2 & 3 AND Reduced embodied carbon |

There are three levels of performance available for this criterion. The minimum required level is performance level 1, which requires projects to demonstrate that they are coherent with the Nationally Determined Contributions to the Paris Agreement of the country in which it is located. Projects wishing to achieve performance level 2 must also demonstrate that they are responsible for zero net Greenhouse Gas emissions for Scope 1 (direct) and 2 (indirect) emissions. This could be done, for example, through the use of renewable energies, or by offsetting carbon emissions to achieve net neutrality. To achieve the third and highest performance level, projects must be responsible for zero net greenhouse gas emissions during the operation phase of the project for scopes 1, 2, and 3 (indirect, including the value chain), and must also have taken steps to significantly reduce their embodied carbon across the lifecycle of the project.

Notes

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# Environmental Dimension of SuRe®



The second criterion in the climate theme is Adaptation: How do we make sure projects are designed for the future climate conditions, which may be significantly different from those of today?

Notes

Summary

3m 36s

# Climate Change Adaptation

- The Project shall:
  - Demonstrate its ability to withstand identified climate change risks and hazards in plausible scenarios throughout The Project's lifecycle;
  - Conduct an assessment to ensure that The Project can withstand future climate conditions identified by IPCC.

Broadly speaking, this criterion requires that projects do two main things. Firstly, they need to demonstrate that they are designed to withstand the future risks predicted due to climate change, and secondly, they must demonstrate that they have done a specific assessment which takes into account the future climate conditions predicted by the Intergovernmental Panel on Climate Change, the IPCC.

Notes

Summary

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# Climate Change Adaptation

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|---|---|
| **Performance Level 1** | Designed for RCP* 4.5 (global average temperature rise of 1.8°C) |
| **Performance Level 2** | In addition: Design uses location-specific interpretation of climate data AND periodic reviews AND Business Continuity Plan with reserved Budget |
| **Performance Level 3** | In addition: Designed for RCP 6.0 (global average temperature rise of 2.2°C) |

*Refers to Representative Concentration Pathways defined in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (2014)

The objective here is to make sure that the effects of future climate change predictions have made it concretely into project design and operating practices. For example, in a region that is expecting to have much higher peak rainfall events in the future due to climate change, a project must have quantified the effect of these events and taken measures in response like increasing the capacity of storm water drainage, or implementing Nature Based Solutions to manage extreme rainfall, such as wetlands, or permeable pavements. Other likely climate change impacts include: rising sea level; salt water intrusion; seawater acidification; accelerated degradation of building materials; increased frequency and intensity of heat-waves, droughts, floods, tropical cyclones, forest fires, melting permafrost and other natural catastrophes. As with the last example, this criterion has three possible performance levels. To achieve level 1, the project has to demonstrate that it's been designed to withstand average global temperature rise of 1.8 degrees Celsius by the end of the century, when compared to the global temperature between 1986 to 2005.

Notes

Summary

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# Climate Change Adaptation

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|---|---|
| **Performance Level 1** | Designed for RCP* 4.5 (global average temperature rise of 1.8°C) |
| **Performance Level 2** | In addition: Design uses location-specific interpretation of climate data AND periodic reviews AND Business Continuity Plan with reserved Budget |
| **Performance Level 3** | In addition: Designed for RCP 6.0 (global average temperature rise of 2.2°C) |

*Refers to Representative Concentration Pathways defined in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (2014)

Or to be more precise, that it's designed to withstand the effects of the climate change scenario described by a climate change scenario in the IPCC's fifth assessment report, known as representative concentration pathway 4.5, or RCP 4.5. To achieve the next performance level, the project also needs to use a location specific interpretation of climate data. This means not using a National summary of data, but using data specific to the exact location of where the project will be built. To achieve performance level three the project needs to be designed for the representative concentration pathway of six point zero. This corresponds to a global average temperature rise of 2.2 degrees Celsius and an average sea level rise of around half a meter by the end of the century. It's interesting to consider here, why the standard does not require that projects can withstand a much higher temperature rise. This was a topic of deep consideration within the stakeholder bodies that set the Standard. Designing projects to withstand higher levels of climate change can be extremely costly, and resource intensive, and hence can cause significant environmental impact as well as carry a large opportunity cost. Our expert committee reached consensus on these levels as being an appropriate trade off between resilience of the infrastructure asset, on the one hand, and resource cost on the other.

Notes

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# Biodiversity & Ecosystem Conservation

"The Project shall be designed as far as possible in a way that integrates Ecosystem Services as a part of the planned Infrastructure function and avoids negative impacts on Biodiversity and ecosystems. Wherever possible, The Project should identify potential for further positive impacts in accordance with the Convention on Biological Diversity and related Protocols."

- SuRe® Standard, Theme E2, Biodiversity and Ecosystems

Now let's take a look at another theme: Biodiversity and Ecosystems This theme covers a few very important topics. It talks about ecosystem services; biodiversity; and the issues that come along with these, like habitat protection as well as the ways that infrastructure can be used to improve rather than destroy biodiversity.

Notes

Summary

7m 23s

# Biodiversity & Ecosystem Conservation

The Project shall:

- Protect Natural Capital, Critical Habitats, ecosystems and species as recognised by the IUCN Red list;
- Identify Endangered Species;
- Define Biodiversity values in The Project site;
- Flora & Fauna assessment;
- Use Business and Biodiversity Offsets Programme (BBOP) Mitigation Hierarchy.

The criteria is closely linked to the international Convention on Biodiversity. In criterion 2.2, there are 5 main things that a project must do: Protect Natural Capital, Critical Habitats, ecosystems and species as recognized by the IUCN Red list; identify Endangered Species; define Biodiversity values in The Project site; conduct a Flora & Fauna assessment; and use the Business and Biodiversity Offsets Programme (BBOP) Mitigation Hierarchy. The BBOP mitigation hierarchy is a system which prioritizes how biodiversity should be dealt with, through the following layers: avoid, minimize, rehabilitate, offset. In some countries many of these practices are already required by law. In others they are not, and in others, the laws requiring them may not be enforced.

Notes

Summary

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# Biodiversity & Ecosystem Conservation

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|---|---|
| **Performance Level 1** | *Mitigation* measures & GIIP & no negative impact on:<br>• Endangered (EN) and Critically Endangered Species (CR);<br>• IUCN protected areas Category Ia or Ib;<br>• Ecosystem Services;<br>• Public heath and safety by decreased provision of Ecosystem Services |
| **Performance Level 2** | No Net Loss & no negative impact on:<br>• Any species except those categorised as 'Least Concern' (LC) and 'Near Threatened' (NT)<br>• areas classified as Protected Area Category Ia, Ib, II |
| **Performance Level 3** | *Avoidance* of negative impacts on Biodiversity, Habitat and Ecosystem Services and:<br>• Net Positive Impact<br>• No impact on species except LC<br>• No impact Protected Area Categories Ia, Ib, II, III, IV, V, or enable others to more easily impact these areas. |

Again, there are three performance levels that projects can achieve for this criterion. Generally speaking, the first performance level focuses on mitigating impacts of the infrastructure project, and protecting the most important species and areas.

Notes

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"The exercise of professional skill, diligence, prudence and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. In practice, it will be the auditor's judgment and experience in the field of the project, that will determine if good international industry practice has been met or not."

- International Finance Corporation of the World Bank

It also refers to Good International Industry Practice (GIIP), which is a term defined by the International Finance Corporation of the World Bank, as follows: The exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. In practice, it will be the auditor's judgement and experience in the field of the project, that will determine if good international industry practice has been met or not.

Notes

Summary

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# Biodiversity & Ecosystem Conservation

| | |
|---|---|
| **Performance Level 1** | *Mitigation* measures & GIIP & no negative impact on:<br>• Endangered (EN) and Critically Endangered Species (CR);<br>• IUCN protected areas Category Ia or Ib;<br>• Ecosystem Services;<br>• Public heath and safety by decreased provision of Ecosystem Services |
| **Performance Level 2** | No Net Loss & no negative impact on:<br>• Any species except those categorised as 'Least Concern' (LC) and 'Near Threatened' (NT)<br>• areas classified as Protected Area Category Ia, Ib, II |
| **Performance Level 3** | *Avoidance* of negative impacts on Biodiversity, Habitat and Ecosystem Services and:<br>• Net Positive Impact<br>• No impact on species except LC<br>• No impact Protected Area Categories Ia, Ib, II, III, IV, V, or enable others to more easily impact these areas. |

The next performance level focuses on no net loss, and protection of more species and areas than were covered in the first performance level. The third performance level focuses on avoidance of negative impact, and causing a net positive impact on biodiversity and ecosystem services. It also requires protection of a greater number of species and of protected areas. Please take a moment after this video to review the full requirements of this criterion in the SuRe® standard to check that you have fully understood it.

Notes

Summary

9m 45s

# Thank you

Thank you for watching.

Notes

Summary

10m 19s